

What is claimed is:

1. A mutant N-acetylglutamate synthase wherein the amino acid sequence corresponding to positions from 15 to 19 in a wild type N-acetylglutamate synthase is replaced with any one of amino acid sequences of SEQ ID NOS: 1 to 4, and feedback inhibition by L-arginine is desensitized.

2. The mutant N-acetylglutamate synthase according to claim 1, wherein a wild type N-acetylglutamate synthase is that of *Escherichia coli*.

3. The mutant N-acetylglutamate synthase according to claim 1, which includes deletion, substitution, insertion, or addition of one or several amino acids at one or a plurality of positions other than positions from 15 to 19, wherein feedback inhibition by L-arginine is desensitized.

4. A DNA coding for the mutant N-acetylglutamate synthase as defined in any one of claims 1 to 3.

5. A bacterium belonging to the genus *Escherichia* which is transformed with the DNA as defined in claim 4 and has an activity to produce L-arginine.

6. A method for producing L-arginine comprising the steps of cultivating the bacterium as defined in claim 5 in a medium to produce and accumulate L-arginine in the medium and collecting L-arginine from the medium.